(ii) Does not exceed ⅜-inch in thickness; and

(iii) Is separated from the interior of the manufactured home by a minimum of 2 inches of mineral fiber insulation or an equivalent thermal barrier; or

(3) The foam plastic insulating material has been previously accepted by the Department for use in wall and/or ceiling cavities of manufactured homes, and it is installed in accordance with any restrictions imposed at the time of that acceptance; or

(4) The foam plastic insulating material has been tested as required for its location in wall and/or ceiling cavities in accordance with testing procedures described in the Illinois Institute of Technology Research Institute (IITRI) Report, ''Development of Mobile Home Fire Test Methods to Judge the Fire Safe Performance of Foam Plastic, J–6461,'' or other full-scale fire tests accepted by the Department, and it is installed in a manner consistent with the way the material was installed in the foam plastic test module. The materials shall be capable of meeting the following acceptance criteria required for their location.

(i) *Wall assemblies.* The foam plastic system shall demonstrate equivalent or superior performance to the control module as determined by:

(A) Time to reach flashover (600° C in the upper part of the room);

(B) Time to reach an oxygen (O_2) level of 14% (rate of O_2 depletion), a carbon monoxide (CO) level of 1%, a carbon dioxide (CO_2) level of 6%, and a smoke level of 0.26 optical density/meter measured at 5 feet high in the doorway; and

(C) Rate of change concentration for O_2, CO, CO_2 and smoke measured 3 inches below the top of the doorway.

(ii) *Ceiling assemblies.* A minimum of three valid tests of the foam plastic system and one valid test of the control module shall be evaluated to determine if the foam plastic system domonstrates equivalent or superior performance to the control module. Individual factors to be evaluated include intensity of cavity fire (temperature-time) and post-test damage.

(iii) *Post-test damage assessment for wall and ceiling assemblies.* The overall performance of each total system shall also be evaluated in determining the acceptability of a particular foam plastic insulating material.

(b) All foam plastic thermal insulating materials used in manufactured housing shall have a flame spread rating of 75 or less (not including outer covering or sheathing) and a maximum smoke-developed rating of 450.

§3280.208 Fire detection equipment.

(a) *General.* At least one smoke detector (which may be a single station alarm device) shall be installed in the home in the location(s) specified in paragraph (b) of this section.

(b) *Smoke detector locations.* (1) A smoke detector shall be installed on any wall in the hallway or space communicating with each bedroom area between the living area and the first bedroom door unless a door(s) separates the living area from that bedroom area, in which case the detector(s) shall be installed on the living area side as close to the door(s) as practicable. Homes having bedroom areas separated by any one or combination of common-use areas such as kitchen, dining room, living room, or family room (but not a bathroom or utility room), shall have at least one detector protecting each bedroom area.

(2) When located in hallways, the detector shall be between the return air intake and the living area.

(3) When a home is equipped or designed for future installation of a roof-mounted evaporative cooler or other equipment discharging conditioned air through a ceiling grille into the living space environment, the detector closest to the air discharge shall be located no closer than three horizontal feet from any discharge grille.

(4) A smoke detector shall not be placed in a location which impairs its effectiveness.

(c) *Labeling.* Smoke detectors shall be labeled as conforming with the requirements of Underwriters' Laboratories Standard No. 217—Fourth Edition 1993 for Single and Multiple Station Smoke Detectors.

(d) *Installation.* Each smoke detector shall be installed in accordance with its listing. The top of the detector shall be located on a wall 4 inches to 12 inches, or at a distance permitted by

the listing, below the ceiling. However, when a detector is mounted on an interior wall below a sloping ceiling, it shall be located 4 inches to 12 inches below the intersection of the connecting exterior wall and the sloping ceiling (cathedral ceiling). The required detector(s) shall be attached to an electrical outlet box and the detector connected by a permanent wiring method into a general electrical circuit. There shall be no switches in the circuit to the detector between the over-current protection device protecting the branch circuit and the detector. Smoke detector(s) shall not be placed on the same branch circuit or any circuit protected by a ground fault circuit interrupter.

[49 FR 32008, Aug. 9, 1984, as amended at 58 FR 55005, Oct. 25, 1993]

§ 3280.209 Fire testing.

All fire testing conducted in accordance with this subpart shall be performed by nationally recognized testing laboratories which have expertise in fire technology. In case of dispute, the Secretary shall determine if a particular agency is qualified to perform such fire tests.

[49 FR 32011, Aug. 9, 1984]

Subpart D—Body and Frame Construction Requirements

§ 3280.301 Scope.

This subpart covers the minimum requirements for materials, products, equipment and workmanship needed to assure that the manufactured home will provide:

(a) Structural strength and rigidity,

(b) Protection against corrosion, decay, insects and other similar destructive forces,

(c) Protection against hazards of windstorm,

(d) Resistance to the elements, and

(e) Durability and economy of maintenance.

§ 3280.302 Definitions.

The following definitions are applicable to subpart D only:

Anchoring equipment: means straps, cables, turnbuckles, and chains, including tensioning devices, which are used with ties to secure a manufactured home to ground anchors.

Anchoring system: means a combination of ties, anchoring equipment, and ground anchors that will, when properly designed and installed, resist overturning and lateral movement of the manufactured home from wind forces.

Diagonal tie: means a tie intended to primarily resist horizontal forces, but which may also be used to resist vertical forces.

Footing: means that portion of the support system that transmits loads directly to the soil.

Ground anchor: means any device at the manufactured home stand designed to transfer manufactured home anchoring loads to the ground.

Loads: (1) *Dead load:* means the weight of all permanent construction including walls, floors, roof, partition, and fixed service equipment.

(2) *Live load:* means the weight superimposed by the use and occupancy of the manufactured home, including wind load and snow load, but not including dead load.

(3) *Wind load:* means the lateral or vertical pressure or uplift on the manufactured home due to wind blowing in any direction.

Main frame: means the structural component on which is mounted the body of the manufactured home.

Pier: means that portion of the support system between the footing and manufactured home exclusive of caps and shims.

Sheathing: means material which is applied on the exterior side of a building frame under the exterior weather resistant covering.

Stabilizing devices: means all components of the anchoring and support system such as piers, footings, ties, anchoring equipment, ground anchors, and any other equipment which supports the manufactured home and secures it to the ground.

Support system: means a combination of footings, piers, caps, and shims that will, when properly installed, support the manufactured home.

Tie: means straps, cable, or securing devices used to connect the manufactured home to ground anchors.